current ceases to pass there is contraction, for then the influence which antagonized contraction is removed. When, on the other hand, *the direct current* passes, there is contraction at the beginning of the current, for the influence of the current upon the nerve-current is one which favours contraction; when the direct current ceases to pass, there is no contraction, for then the influence is no longer one which favours contraction.

(*c*) In the third period—*that of single contraction*—the muscular movements resulting from the action of a galvanic current upon nerve are at first sight somewhat perplexing; but with a little thought, it may be seen that the same key will apply to their interpretation.

If, as has just been mentioned, contraction attends upon the beginning of the direct current because this current is found to favour contraction, it is not difficult to find a reason which will explain in some degree, not only why in *the period of double contraction* the strongest contraction is at the beginning of the direct current, but also why in the first part of the period now under consideration—*that of single contraction*—contraction should continue to attend upon the *direct* current after it has ceased to attend upon the *inverse* current. Nor are the apparent irregularities in contraction, the "voltaic alternatives," entirely inexplicable; for it may be that these seeming irregularities—this apparent shifting of contraction from the beginning of the direct to the beginning of the inverse current, and so backwards and forwards once and again—may be nothing more than the natural consequence of the changes which at this time have taken place, and are taking place, in the direction of the nerve-current.

III. "Letter from Lord HOWARD DE WALDEN AND SEAFORD, Her Majesty's Minister at Brussels, to Lord JOHN RUSSELL, on a recent severe Thunder-storm in Belgium." Communicated by the Right Hon. Lord JOHN RUSSELL.

The writer states that the thunder-storm burst between seven and eight o'clock at night on Sunday the 19th of February, and was accompanied by an unusually heavy fall of snow throughout Belgium. Twelve churches were struck almost simultaneously, although at great distances from each other, namely, near Malines, Antwerp, Liege, Louvain, Charleroi, and Courtrai. Those of Aerschot, Nazareth, Wesemael, fine old buildings, were totally destroyed; those of Puers, Lierre, Aerselaer, Lobbes, Walcourt, Marchienne au Pont, Liege, Courtrai, Moorslede, suffered more or less in the steeples or towers.

March 8, 1860.

Sir BENJAMIN C. BRODIE, Bart., President, in the Chair.

The following communications were read:—

I. "On the Solar-diurnal Variation of the Magnetic Declination at Pekin." By Major-General EDWARD SABINE, R.A., Treas. and V.P.R.S. Received February 2, 1860.

When the first year of hourly observations of the declination, January 1 to December 31st, 1841, was received at Woolwich from the Magnetic Observatory at Hobarton, and when means had been taken of the readings of the collimator-scale at the several hours in each month, and these monthly means had been collected into annual means, it was found that the mean daily motion of the declination magnet at Hobarton presented, as one of its most conspicuous and well-marked features, a double progression in the twenty-four hours, moving twice from west to east, and twice from east to west; the phases of this diurnal variation were, that the north end of the magnet moved progressively from west to east in the hours of the forenoon, and from east to west in the hours of the afternoon; and again from west to east during the early hours of the night, returning from east to west during the later hours of the night: the two easterly extremes were attained at nearly homonymous hours of the day and night, as were also the two westerly extremes; the amplitudes of the arcs traversed during the hours of the day were considerably greater than those traversed during the hours of the night.

When, in like manner, the first year of hourly observations, July 1st, 1842, to June 30th, 1843, was received from the Toronto Observatory, and the mean diurnal march of the declination magnet